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ENVIRONMENT POLICY IN THE O.E.C.D. WITH SPECIAL REFERENCE TO
THE PROGRAMMES ON WATER AND AIR

Submitted by the Secretariat of the Organization for Economic
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INTRODUCTION

1. The work on the environment within the O.E.C.D. has to be seen in the context of the overall responsibilities of this Organisation in relation to economic policy. It directly and indirectly involves the work of many Committees but has, so far, been largely centred on the technological and administrative issues for which the Committee for Research Co-operation has been responsible until recently.

2. The desire of the Member countries to extend existing work in sectors, such as water and air management, to embrace more fully the economic implications of environmental problems as a whole, and the desire to link environment questions to the wider decisions on economic and social policy, have led during 1970 to a substantial remodelling of both Committee and Secretariat structures. A new Environment Committee has been established with a wide, multi-disciplinary mandate (see Annex) and this Committee has now met twice, once in November 1970 and recently in March 1971. It is the desire of the Member countries that this Committee should furnish to the responsible public authorities, practical information in relation to formulation of policies for the environment; taking account of the economic implications which measures designed to protect or improve the environment may have in relation to economic growth and social development. It is further the intent that this new Committee should as far as possible concentrate its attention on specific problems which may result in agreement on clear and precise recommendations for action to Member governments.

3. In continuing the work of the Organisation and in developing the new economic orientation for this work, the Committee will be operating at different levels. First, there are the Sector Groups composed of senior government administrators responsible for management in the sector and under whose guidance specific short term evaluation studies will be made when necessary. These Sector Groups which exist for water management, air management, chemicals in the environment and urban environment questions have the responsibility to maintain an overview of problems of international concern in their respective sectors and to report to the Environment Committee on emerging problems that appear especially significant. They also provide a focal point of exchange of much information and experience with regard to various strategies, economic and legal as well as technical, that could be of importance in relation to environment policy. Furthermore, they represent the national administrations who would necessarily be responsible for implementing any action recommendations that might arise, either through their own work or through the more general work on environment of the Committee itself.

4. The second level of operation adopted by the Environment Committee is that of the formation of a small number of ad hoc groups with relatively specific mandates where some pollution problem involves consideration of all aspects of pollution simultaneously and where it is believed that specific action recommendations can result from investigations in a comparatively short time scale. Such groups have been established in relation to air pollution from fuel combustion, pollution arising from pulp and paper manufacture and the motor vehicle. The operations of these groups, which are essentially short term, include review of the present situation with regard to pollution of all types from the designated source, estimate in relation to economic growth

predictions of the probable future situation, assessment of the means available to reduce pollution and recommendations on the ways and means by which governments might act. These operate jointly with other established policy committees of the O.E.C.D., such as Industry, Agriculture or Energy.

5. Further, there is newly established within the Environment Directorate of the O.E.C.D. a Central Analysis and Evaluation Unit which can, over a period of time, establish effective methods of investigation for environmental problems, extract from the various investigations undertaken the general principles for environmental policies and evolve the economic methodology to incorporate the environment factor as a dynamic element in economic policy.

6. The Central Analysis and Evaluation Unit is a key development in relation to the programme of work of the O.E.C.D. on environmental questions. This Unit will develop the integrative approach to environmental problems and establish a close link with the general studies on economic growth and development. It can be expected to undertake work of the following type, although it should be noted that its specific programme has not yet been decided:

- (a) Analysis of overall environmental problems: as part of its function of analysis and evaluation of environmental problems the Unit will examine the extent to which there is similarity in environmental problems within different countries and regions with respect to ecological imbalance, threats to human health, loss of natural or man made resources, and loss of amenities. The Unit will gather statistical information both on economic and environmental indicators, it will also work on descriptive models.

- (b) Evaluation of environmental policies: the Unit may be called on to investigate:
 - (i) under what conditions the concept of an overall environmental policy would be useful to government administrators (e.g. how the objective of a certain desired environmental quality can be related to other objectives of national policy such as economic growth and public health, and how such a multi-goal approach to planning and policy making can be analysed);
 - (ii) the present status of overall environmental policies in the Member countries. This study might be carried out in collaboration with other international organisations;
 - (iii) principles to be used in general policy formulation in the assessment of costs arising from implementation of environmental policies, for example are these to be borne by the consumer or the tax payer?
- (c) Assessment of control mechanisms: the Unit may be called on to study questions of international standards for pollution control and in general the assessment of administrative options for environmental protection and their economic consequences.

7. Finally, it has also been agreed that an early notification and consultation process shall be established in the O.E.C.D. between the Member governments with regard to measures intended to protect him or the environment from the spreading of certain chemicals. The procedure which will be adopted is not limitative to a named list of chemicals but

does refer to that group of chemicals, of which pesticides is an example, which are persistent in the environment, disperse widely through the environment and tend to accumulate in living organisms.

8. From this wide range of tasks with which the new Environment Committee of the O.E.C.D. is charged, two particular aspects have been selected for more detailed description as being of particular interest in the context of the agenda of the Conference of Government Experts on Problems Relating to the Environment, organised by the Economic Commission for Europe in Prague. The aspects selected for more detailed description are the programmes of work in the sectors dealing with water management and air management.

WATER MANAGEMENT SECTOR

9. The Water Management Sector Group, one of the several Groups referred to in paragraph 3 above, was first established in 1967 and has already held a carefully planned sequence of meetings, many of them outside O.E.C.D. headquarters, in order to examine the experience of Member countries at first hand. As a result of this, it has been possible for the Group to define a short list of problem areas for international examination and co-operation in respect to water management which are not only of great significance to Member countries in policy formulation, but where it is clear that international co-operation is beneficial or necessary for their solution. In general, the approach to these problems now selected for examination will be by specific short term investigations of different aspects as, for example, the contributions of detergents and agricultural fertilisers to eutrophication, with integration and assessment of overall implications vested in the Sector Group itself.

I. Control of Eutrophication

10. This particular item in the programme of the Water Management Sector Group is perhaps of particular interest in that it exemplifies very clearly the method of operation of the Group. In 1970 the results of some three years of work were made available to the general public. These included a review of scientific research completed in 1967, the proceedings of the first administrative policy meeting, organised jointly with Sweden and held in May, 1968, and thirdly the findings of a government group of experts as to the priority issues for co-operation between countries in order to achieve control of this phenomenon. These three steps representing various stages in the process of selection and definition of administrative requirements in relation to environmental problems have led to the establishment of the programme now agreed by Member countries.

11. This programme deals with the assessment of the overall impact of eutrophication and its control on water management in three parts. One part of the programme will examine the various possible methods of control of discharge of phosphate and nitrate in water with particular reference to analysis of the cost effectiveness of the treatment techniques. The second part will deal with the feasibility and the economic implications of the control of discharge of certain specified nutrients to water, with particular reference to detergents and agricultural fertilisers. The third part of the programme will establish a co-operative project on comparable systems of measuring and monitoring the eutrophic state of water so that countries may be in a position to predict the rate of change in specific bodies of water and may be able to compare on an international basis the effectiveness of different remedial measures being practised or established on an experimental basis.

II. Integrated Water Management

12. Effectively this area of the Sector Group programme has just passed through the second stage of evaluation, namely the administrative policy symposium. Rather than have a special meeting of experts on the subject, the Water Management Group itself met in an extended meeting in North America in 1970 in order to make a comparative review and analysis of the basic issues facing national administrations in the development of integrated development and control of the water resource. Nine basic problems were posed for examination against an extensive background preparation as to experience in their solution in the United States and Canada with contributions from other Member countries.

13. The nine problems selected for examination were as follows:

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| Problem I | What criteria govern the choice of approach - hydrographic or regional - for water management planning purposes? |
| Problem II | What is meant precisely by "Objectives" when used in relation to water management? |
| Problem III | What procedures exist to choose among a variety of alternatives which may be used to achieve objectives? |
| Problem IV | How is the problem of divided jurisdiction handled, such as exists when a river runs through several states, provinces or countries? |
| Problem V | How are problems arising from divided administrative responsibilities among various bodies of authorities dealt with? |

- Problem VI How are the respective objectives of the many special interest groups made a part of the total water management programme? Are formal or informal organisational structures used to integrate these interests? Can differences be resolved by economic methods?
- Problem VII What means can be employed to obtain agreement on a water resources management programme of benefit to the region as a whole, if small or vested interest groups are seriously affected?
- Problem VIII How are information services integrated so that the appropriate persons have the information they need for decision making?
- Problem IX What approaches are taken to determine the apportionment of costs for water management among those who benefit - in other words, who pays?

14. The functions of this meeting was two-fold; first to provide an ad hoc opportunity for government representatives to exchange views and experiences on the problems as defined in advance; secondly to select and define on the basis of the information available from this discussion that short list of problem areas where international co-operation was most essential. With regard to certain of these problems it was considered that the international exchange had been achieved in the meeting itself and that the problems were so intimately related to local conditions that there would be little value in developing an international programme. The problems placed in this category were problems I, IV and V.

15. With regard to the remaining problems the Group reformulated their definition into two main topics for investigation. With regard to the first, namely environmental and ecological factors which are proving difficult to incorporate into water resource planning, the Group is preparing for a meeting between water managers, ecologists, regional planners, economists and land use planners early in 1972. With regard to the second, namely fiscal and financial techniques used in the implementation of water policy objectives, the Group will review the use made at present of these techniques in Member countries with a view to extracting the general principles, if such exist.

III. Water Quality and the Economics of Pollution Control

16. In this area of work there is a considerable history of co-operation in the O.E.C.D. In the first instance, and as early as 1961, the programme was directed towards examination of analytical methods for measuring the quality of surface waters and towards the study of certain specific pollution problems, such as that resulting from the surface active agents of synthetic detergents. Subsequently work was directed towards techniques and the cost of purification processes for urban and industrial effluents and the possibilities of recycling and re-use of water. Various other specific questions have from time to time been the subject of expert investigations in this general area of maintenance of water quality.

17. The Group has launched the investigation of certain pollution problems where present experience and knowledge is not adequate in the specification of treatment methods. This particularly applies to certain chemical products which pass

through certain treatment processes, often in small quantity, but where the nature of the products represents an undesirable pollutant of water even at low concentrations. The Group has under consideration an administrative policy meeting to examine with the experts concerned the problem of control of water pollution where the total river system is in certain respects approaching critical loading because of economic growth. Subjects which would be examined at such a meeting might well be:

- (a) Risk of pollution arising from the introduction of new chemical products;
- (b) Risk of accidental pollution which becomes more serious as the number of factories and the size of towns increase;
- (c) The problem of dispersed sources of pollution;
- (d) Cost and effectiveness of purification processes designed to eliminate a wider range of potential pollutants, possibly present only in low concentration in the effluent.

AIR MANAGEMENT SECTOR

18. The Air Management Sector Group has selected certain priority areas for investigation. These are sources of air pollution and the costs and problems involved in wider utilisation of best available abatement technology. Additionally, they have identified a number of specific management problems involving co-operative research or co-operative investigations of one type or another to provide the information necessary for a rational and effective policy. Recently the Group has summarised the main items in its programme which are given below with a short description of the nature of the work completed or being undertaken.

Effects of Air Pollution

19. A report on Present and Future Priorities in Research on Effects of Air Pollution has been completed. In addition to defining research priorities, this report defined three prerequisites for consideration by authorities before allowing any new activities (industrial or other) which could lead to deterioration of environmental (air) quality in a region:

- (i) the predictable total impact of the activities on this region must be examined;
- (ii) the industry or other polluter must apply the best practicable abatement technology, irrespective of whether this is required for achieving an "acceptable" air quality;
- (iii) the politically decided ambient air standards, if any, for the region must not be exceeded at any point.

Fuel Combustion and Air Pollution

20. The Joint Group on Air Pollution from Fuel Combustion in Stationary Sources, established with the Energy Committee and the Oil Committee, has defined the national reports necessary for its task. These national reports are, in most instances, almost completed. Direct benefit has already been derived from this work in a number of Member countries where the data, now available for the first time, has resulted in important revisions to forward estimates of atmospheric pollution by sulphur; in some instances reversing the predicted downward trend. The work of this Joint Group has direct implications for the determination of national policies related to future fuel resources and the need for air pollution control measures. In the earlier and exploratory stage of this work there was close co-operation between the

O.E.C.D. and the E.C.E. in that information collected and reported on by the O.E.C.D. on Desulphurisation Processes for Stack Gases was made available to the E.C.E. Technical Symposium on the Desulphurisation of Fuels and Combustion Gases in Geneva, 16th to 20th November, 1970. The results of this Symposium are being taken into account in the established programme of work of this O.E.C.D. Joint Group on Fuel Combustion and Air Pollution.

Fluoride Pollution

21. The second major investigation of a specified pollution source is that of fluorides emitted to air from the primary aluminium smelting industry. Examination of the cost and effectiveness of the various possible abatement techniques has been initiated through an expert group. This group has met and defined the information needed to predict conditions up to 1975 and to report on available abatement techniques and their costs. This study, to be completed in 1971, will be followed by similar investigations into fluorides from iron ore sintering and from superphosphate fertiliser manufacture. Information derived from these investigations will be useful for determination of the impact on the environment of expansion of these industries, the policy involved in location of these industries and the degree of air pollution control required.

Models for Prediction of Air Pollution

22. The administrative uses of modelling techniques for the prediction of air pollution have been examined and a report prepared. The Group recommends to Member governments that the operational use of models by appropriate control authorities in Member countries be encouraged. One of the main uses of these modelling techniques is in the development of alternative control strategies for minimising the economic impact on a

region of air pollution control. They are of special value in providing solutions to long range air pollution planning problems in that no other rational procedures are available for such forward planning. An important conclusion of this examination was that further development of modelling techniques was hindered by the lack of knowledge of transformation and removal processes of pollutants in the atmosphere. Because of this lack of knowledge consideration must now be given to a much greater support for research on these processes. The Group has taken note that certain aspects of these processes are under consideration for research co-operation in the C.O.S.T. Group of the European Economic Community. As a typical example of a specific technical study by O.E.C.D., the report of the Group of nationally nominated experts on Models for Prediction of Air Pollution has been made available to this E.C.E. Conference as a background paper.

Long Range Transport of Air Pollution

23. The lack of information on the impact of air quality within a region of pollution arising from sources outside that region has been accepted as a major unknown with significant international implications. Preparatory work is well advanced for a co-operative research project to measure the extent to which such long distance transport of sulphur pollution can affect environmental conditions in Western Europe. This planning has already stimulated exploratory field work in a number of countries. The World Meteorological Organisation will be collaborating in this project.

Comparability of Measurement

24. The Group has indicated through the report of its Group of Experts in Measurement Research, which has been submitted to this E.C.E. Conference as a background paper,

that international comparability of measurement of air pollutants is an essential base for co-operation between countries on questions of air quality and for the utilisation of world-wide information on effects of air pollution for the preparation of criteria documents. The technical expertise of O.E.C.D. Member countries will be utilised by World Health Organisation through the W.H.O. International Reference Centre on Air Pollution Control in the United States in a programme planned to provide measurement reference methods for air pollutants, to be applied on a world-wide basis. This will require convening the appropriate experts when the detailed W.H.O. programme proposals are available for comment.

Exploratory Action for Work under Consideration

Photo-Chemical Smog

25. Exploratory work will be undertaken in Member countries to examine the incidence of photo-chemical smog in Europe. Lack of information on incidence is a serious hindrance to planning in respect of control measures which may be essential for the major sources of the precursors of these pollutants. It is to be noted that the motor vehicle is a major contributor of these precursors.

CONCLUSION

26. It can be seen from the above report that the general direction within the O.E.C.D. in investigation of environmental problems is to seek recommendations with regard to closely defined, specific aspects within the general framework of developing environmental policy, whether within a sector or in the context of the environment as a whole. Secondly, great emphasis is being placed on the economic, financial and fiscal aspects of these problems with a view to developing a clear picture of cost structure in relation to pollution.

loading resulting from economic growth. The first O.E.C.D. reports within this re-orientation of the programme can be expected in relation to questions of eutrophication of water, pollution from combustion of fossil fuels and pollution arising from the pulp and paper industry.

ANNEX

TEXT OF THE MANDATE OF THE
ENVIRONMENT COMMITTEE

Excerpt from the Resolution of the Council of the O.E.C.D.
adopted on 22nd July, 1970

"THE COUNCIL
.....

DECIDES:

1. An Environment Committee is hereby established which shall be responsible for:
 - (i) investigating the problems of preserving or improving man's environment, with particular reference to their economic and trade implications;
 - (ii) reviewing and confronting actions taken or proposed in Member countries in the field of environment together with their economic and trade implications;
 - (iii) proposing solutions for environmental problems that would as far as possible take account of all relevant factors including cost effectiveness;
 - (iv) ensuring that the results of environmental investigations can be effectively utilised in the wider framework of the Organisation's work on economic policy and social development.
2. The Environment Committee will carry out its activities in co-operation with other Committees concerned, as appropriate."